REMARKS

Claims 1, 5, 9, 10, 13-20, and 22-24 remain in the application.

Reconsideration is respectfully requested of the objection to claim 14 under 37 CFR 1.75(a).

The units for the time period recited in claim 14 were corrected in the specification in the amendment filed January 26, 2004 and now agree with the showing of Fig. 5.

Reconsideration is respectfully requested of the rejection of the claims under 35 U.S.C. 103(a), as being unpatentable over *Hara, et al.* in view of *McKnight.*

One goal of the present invention is to improve the response time of a liquid crystal display. One pixel of such liquid crystal display is shown in Fig. 3. In the circuit of Fig. 3, the storage capacitor Cst is connected to the previous gate Gn-1 to maintain a previous gate voltage in the liquid crystal capacitor Clc.

Such a drive method in which the liquid crystal application voltage Vp applied to the liquid crystal capacitor Clc is influenced by the gate voltage applied to the previous gate is known as capacitively coupled driving.

According to the present invention, a grayscale level of the liquid crystal is changed to black or white before applying the pixel voltage, so that the change amount of the liquid crystal capacitance is large, even with intermediate grayscale levels, thereby obtaining an improved response speed. As shown in Fig. 7A, in the gate voltages for changing a liquid crystal to a black grayscale from a normally white mode, the reset interval and the overshoot interval are both of the same polarity. On the other hand, as shown in Fig. 7B, gate voltages for changing a liquid crystal to a white grayscale from a normally black mode involve the reset interval and the overshoot interval being of opposite polarities.

Thus, the provision of the gate signal with a reset interval and an overshoot interval is an important feature of the present invention.

These features of the present invention explained above improve the response speed of each pixel of the liquid crystal display.

Hara, et al. relates to a LCD device and, as shown in Fig. 4, such a device includes a plurality of gate lines intersecting a plurality of signal lines. The device includes a signal line driver and a gate line driver. The gate signal is in the form of a rectangular pulsed signal and a reset period Tr is present before the gate-on signal Tgon. The frame period consists of the gate-on pulse and what is apparently an off period shown as the Vgoff. In *Hara, et al.*, a reset line, which is different than a gate line, is provided, and a reset signal is applied to the reset line.

The Examiner notes that *Hara, et al.* fails to disclose the reset interval for converting a grayscale level of a subsequent gate to an extreme grayscale level. *McKnight* is cited for curing this deficiency.

McKnight relates to a display system having common electrode modulation. In the display system, the common electrode is driven to different voltages in a controlled phase relationship to pixel data acquisition. According to the principle of common electrode modulation, the pixel electrodes do not have to be driven to voltages other than their data voltages when the common electrode is modulated.

McKnight discloses that after an image has been viewed it is desired to reset each pixel to an off state in preparation for access acquisition of the next set of image data.

In the first instance, it is respectfully submitted that in *Hara, et al.* the reset line is different than the gate line of the present invention. Moreover, in *Hara, et al.*, the examiner has presumed that "Tframe" is an overshoot interval, whereas in actuality "Tframe" is a period of a gate signal.

Furthermore, it is respectfully submitted that the resetting operation of *McKnight* is not the same as the reset period of the gate signal as in the present invention. Moreover, because *McKnight* relates to common electrode modulation, there is no gate signal present in the display system. In fact, the word "gate" does not appear at all in the entire *McKnight* disclosure.

Therefore, it is respectfully submitted that one with ordinary skill in this art would not have been led to combine the resetting operation of all of the pixels of *McKnight* with the LCD device of *Hara, et al.*, because there is no suggestion of any benefits to be had by making such combination and because *McKnight et al.* does not relate to a gate driver type display system as in the presently claimed invention.

Accordingly, it is respectfully submitted that a liquid crystal display utilizing a gate signal that has a reset interval and an overshoot interval, as taught by the present invention, is neither shown nor suggested in the cited references, alone or in combination.

Favorable reconsideration is earnestly solicited.

Respectfully submitted,

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